

FINAL PROJECT REPORT

Buried Quasars in Ultraluminous Infrared Galaxies

Award No. NAG5-13569

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Period Covered
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Summary of Project Activities

1. Brief description of the primary objectives and scope of the project:

We were awarded 100kS of INTEGRAL spacecraft time (Priority A) and 100kS (Priority C) using the IBIS camera to observe the warm ultraluminous infrared galaxies (ULIGs) Mrk 231 and IRAS F05189-2524, respectively in order to measure the integrated flux of the 20-1000 KeV gamma-Ray emission, and to use this information to search for the presence of an highly obscured active galactic nucleus (AGN). By observing these two objects we hope to be able to better assess the role of AGN in the complete class of ULIGs and therefore to better constrain their contribution to the hard X-ray and gamma-ray backgrounds.

2. Brief description of the findings:

Our Priority A 100 kS observation of Mrk 231 (I.F. Mirabel, PI) was successfully carried out during revolution #73 using 4 separate exposures with the IBIS camera during May, 2003. Our Priority C 100 kS observation of IRAS F05189-2524 was not executed. Although our IBIS observation of Mrk 231 was successfully executed, and the source was properly centered in the Field-of-view of the detectors, the number of photons detected was lower than expected. We are still in the process of interpreting the gamma-ray data.

3. Name and date (or anticipated date) of the publication of results:

A preliminary report of our findings has been presented at several Department colloquia and one astronomy workshop, and is currently being written up for submission to Astronomy & Astrophysics. We expect that the Journal paper will be submitted within the next three months.

4. Suggestions and additional comments:

None